

What is Claimed is:

1. An apparatus for manufacturing fiberglass-reinforced sheet, comprising:
  - an upper movable surface being arranged in a longitudinal manner;
  - a feed mechanism to continuously feed sheet onto said upper movable surface;
  - a spray mechanism to spray a first outer coat of material onto said moving sheet;
  - at least one dispensing mechanism to dispense resin over a layer of first outer coat;
  - at least one applicator mechanism to apply reinforcement over said resin;
  - a loading area whereby sheet panels may be positioned over said reinforcement;
  - and
  - a mechanism to draw resin applied to said sheet panels into said sheet panels to form a rigid composite material.
2. The apparatus of claim 1, wherein said reinforcement applicator mechanism comprises a chopper for applying fibrous reinforcement.
3. The apparatus of claim 1, wherein said upper movable surface is defined by a continuous loop of individual links.
4. The apparatus of claim 3, wherein said links are elongate in width and connect to adjacent links along their front and rear edges.
5. The apparatus of claim 4, wherein said apparatus further comprises a rail member positioned below said links defining a reference surface, and said links have a lower foot portion which registers with said links to define a horizontal plane, on said upper movable surface.
6. The apparatus of claim 5, wherein said foot portion has a wear bar comprised of a low friction surface which slides relative to said reference surface.

7. The apparatus of claim 1, wherein said drawing mechanism is a pressure application mechanism.
8. The apparatus of claim 3, wherein said pressure mechanism is comprised of a second continuous loop of individual links, positioned in a spaced apart position from said first continuous loop.
9. The apparatus of claim 1, wherein said sheet is comprised of a roll of sheet material of high tensile strength.
10. The apparatus of claim 9, further comprising a take up roller to roll up said sheet material.
11. The apparatus of claim 10, further comprising a roller table adjacent said take up roller, whereby finished fiberglass-reinforced sheet may be continuously fed onto said roller table.
12. The apparatus of claim 11, wherein said reinforcement applicator mechanism comprises a chopper for applying fibrous reinforcement.
- ~~13.~~ An apparatus for manufacturing fiberglass-reinforced sheet, comprising:
  - a mold surface being arranged in a longitudinal manner, onto which the fiberglass-reinforced sheet may be formed;
  - a spray mechanism to spray a first outer coat of material onto said mold surface;
  - at least one dispensing mechanism to dispense resin over a layer of first outer coat;
  - at least one applicator mechanism to apply fiber strands over said resin; and
  - an automatic roller mechanism which performs transverse rolling patterns across said mold surface.
14. The apparatus of claim 13, wherein said automatic roller mechanism is comprised of at least one roller which is driven in a continuous loop in a direction transverse to said longitudinal direction.

15. The apparatus of claim 14, wherein said mold surface is movable in said longitudinal direction.
16. The apparatus of claim 15, wherein said roller mechanism is profiled to move said at least one roller in a direction, such that the roller has a transverse velocity component and a longitudinal velocity component, whereby the longitudinal velocity component is equal to a longitudinal velocity of the moving mold surface.
17. The apparatus of claim 16, wherein said roller mechanism is comprised of a driven chain loop guided around a chain guide, and said roller is attached to and driven by chain loop.
18. The apparatus of claim 17, wherein said chain guide is movable to various angles to vary the angle of the chain guide relative to the longitudinal direction.
19. The apparatus of claim 17, wherein a plane of said chain guide is tipped relative to a plane of said mold surface.
20. The apparatus of claim 19, further comprising a plurality of rollers attached to and driven by said chain loop.
21. The apparatus of claim 16, wherein said movable mold surface is defined by a roll of film together with a feed mechanism to feed said film at a first end, and a take up roller at a second end.
22. The apparatus of claim 21, further comprising a movable support surface positioned beneath said movable mold surface.
23. The apparatus of claim 22, wherein said movable mold surface and said movable support surface are moved together at substantially the same speeds.

24. The apparatus of claim 23, wherein said movable support surface is defined by a continuous loop of individual links.
25. The apparatus of claim 24, wherein said apparatus further comprises a rail member positioned below said links defining a reference surface, and said links have a lower foot portion which registers with said links to define a horizontal plane.
- ~~26.~~ A method for manufacturing fiberglass-reinforced sheet, comprising the steps of:
- feeding a sheet of material over a support surface;
  - applying a first outer coat of material to said sheet;
  - applying at least a first coat of resin over said first out coat;
  - applying fiber strands over said resin;
  - positioning a reinforcement sheet over said fiberglass, and
  - forcing said resin into said reinforcement sheet to form a composite material.
27. The method of claim 26, further comprising the step of moving the support surface at the same speed as said sheet of material.
28. The method of claim 27, wherein said sheet of material is taken up by a take up roller, and a continuous sheet of fiberglass-reinforced sheet is moved tangentially away from said sheet of material.
29. The method of claim 26, further comprising the step of rolling said fiber strands into said resin.
30. The method of claim 29, wherein said rolling is generally transverse to the direction of feed.
31. The method of claim 30, wherein said rolling is accomplished by moving at least one roller in a direction, such that the roller has a transverse velocity component and a longitudinal velocity component, whereby the longitudinal velocity component is equal to the longitudinal velocity of the sheet feed.

32. The method of claim 31, wherein the rolling is accomplished by the use of a plurality of rollers.